

What is claimed is:

1. A high strength copper alloy composed of Cu and inevitable impurities as well as titanium (Ti) at 0.1 to 4 weight percent, which is produced by subjecting a material to cold rolling, precipitation treatment, and additional cold rolling sequentially, wherein a reduction rate of the additional cold rolling is set to 3% or more, and a total reduction rate of the cold rolling and the additional cold rolling ranges from 15% to 50%, so that a ratio of yield strength versus tensile strength is set to 0.9 or more.
2. A manufacturing method for a high strength copper alloy, comprising the steps of:
  - performing cold rolling on a copper alloy material composed of Cu and irreversible impurities as well as titanium at 0.4 to 4 weight percent;
  - performing precipitation treatment on the copper alloy material; and
  - performing additional cold rolling on the copper alloy material,wherein reduction rate of the additional cold rolling is set to 3% or more, and total reduction rate of the cold rolling and the additional cold rolling ranges from 15% to 50%.
3. The manufacturing method of a high strength copper alloy according to claim 2, further comprising the step of:
  - performing stress relaxation annealing after the additional cold rolling,wherein the copper alloy material is heated to a temperature ranging from 200°C to 700°C for a prescribed time ranging from 0.5 hour to 15 hours.

4. The manufacturing method for a high strength copper alloy according to claim 2, further comprising the step of:

performing stress relaxation annealing after the additional cold rolling, wherein the copper alloy material is heated to a temperature ranging from 300°C to 950°C for a prescribed time ranging from 10 seconds to 1000 seconds.

5. The manufacturing method for a high strength copper alloy according to any one of claims 2 to 4, wherein the copper alloy material includes at least one of Ag, Ni, Fe, Si, Sn, Mg, Zn, Cr, and P at a weight percent ranging from 0.01 to 2 in total, and wherein Ni at a weight percent ranging from 0.01 to 0.04, and Si at a weight percent ranging from 0.01 to 0.1.

6. A high strength copper alloy according to claim 1, wherein the reduction rate of the additional cold rolling exceeds one third of the reduction rate of the cold rolling.